

# Does Pay for Performance Reduce Earnings Management in France ?

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## Abstract

The purpose of this paper is to examine the relationship between performance-based CEO compensation and earnings management by French managers. The French context is worthy to study given that firms are mostly held by families. CEO compensation in such firms is used as a tunneling mechanism to expropriate minority shareholders. Using a sample of French listed firms, we study how bonuses and CEO stock-option compensation affect earnings management practices. The findings show that managers are inclined to increase the variable part of their compensation by engaging in earnings management practices. Furthermore, we find that the amount of stock-options granted and exercised is positively associated to upward earnings management. These findings highlight manager's opportunistic behaviour upon performance-based compensation which rather acts as a tunnelling mechanism than a corporate governance device.

**Keywords:** Stock-option, Bonus, Earnings management

## 1. Introduction

The issue of executive compensation has been the subject of much debate by several regulators. The growing attention to this incentive mechanism also attracted the attention of many researchers by examining the legitimacy of compensation granted to executives. Research on executive compensation is supported by the agency theory framework (Jensen and Meckling, 1976). The separation between decision and ownership leads to conflicts of interests between shareholders and managers. The latter take advantage of their strategic position and managerial latitude to pursue their own goals rather than those of shareholders. To address this problem and reduce the agency costs, corporate governance incentive and control mechanisms are introduced to protect the interests of shareholders. The incentive mechanisms mainly include contracts pay between owners and managers. While executive compensation is deemed to align the interests of executives and shareholders, it may lead however, to significant deviations. Indeed, the financial scandals of recent years and the growth of compensation plans reveal that managers enjoy significant financial benefits even when their firm performance is poor. This is due to the ability of managers to change the settings of their earnings by taking advantage of their power in the firm.

Earnings management is supported by the framework of positive accounting theory (or contractual political theory) initiated by Watts and Zimmerman (1978). The choice of accounting policies reflects the contractual relations and informational advantage of managers. A key assumption arising from the nature of contracts is the assumption of compensation developed by Watts and Zimmerman (1978).

Executives are inclined to profit from accounting deficiencies to influence the content of firm financial statements for their own interests. From an opportunistic perspective, managers use their discretion to increase their compensation depending both on accounting performance (bonus) and market value (stock-options). This opportunistic behaviour by managers may result in earnings management practices.

The purpose of this paper is to examine the relationship between pay for performance and earnings management by French managers. This study aims at shedding light on this relationship in a different legal and financial environment which is the French context. The French context is worthy to study given that firms are mostly held by families. CEO compensation in such firms is used as a tunneling mechanism to expropriate minority shareholders.

Our findings show that managers are inclined to increase the variable part of their compensation by engaging in earnings management practices. Furthermore, we find that the amount of stock-options granted and exercised is positively associated to upward earnings management. These findings highlight manager's opportunistic behaviour upon performance-based compensation which rather acts as a tunnelling mechanism than a corporate governance device.

This paper is organized as follows: the second section presents a review of the literature on the link between executive compensation and earnings management. The third section presents the procedure of sample selection, data collection methodology and empirical results. The last section concludes the paper.

## 2. Literature review and hypotheses

Two basic approaches explain the process of determining executive compensation, developed in the framework of the theory of agency: the approach of the optimal contract "Optimal Contracting" and the managerial power

approach "Managerial Power ". The approach of the optimal contract (Gossman and Hart, 1983) predicts that the board designs executive compensation arrangements exclusively to reduce agency costs. However, the theory of managerial power indicates that managers have considerable power over the board, enabling them to affect the process of fixing their compensation, in order to obtain the highest possible compensation (Core et al. 2003). Bebchuk and Fried (2003) point out that executive compensation is not considered only as a potential tool for alignment of interests, but rather a part of the agency problem itself. Managers use this corporate governance device as a tunneling mechanism to extract "rents", through earnings management practices.

Watts and Zimmerman (1986) assume that managers are opportunists and select the accounting practices allowing them to maximize their own utility. According to the politico- contractual theory, CEO compensation contracts, is a motivation for earnings management. Hence, managers can choose ex-post accounting methods that allow them to artificially inflate the profits of their company in order to maximize their wealth.

### *2.1. Bonus and earnings management*

Bonus granted to executives is linked to performance measures, such as the accounting profit. According to Ittner et al. (2003), earnings per share, net income, and operating income are the most commonly used performance measures. Murphy (2001) found that 91% of firms in their sample, adopt accounting performance measures in their bonus plans.

Through the bonus level hypothesis, Watts and Zimmerman (1986) argue that managers that benefit from bonus plans based on accounting income are more likely to choose accounting practices that defer the profits of future periods to the current period in order to maximize the variable part of their compensation.

Empirically, Healy (1985) show that managers use discretionary accruals to maximize the value of their bonuses plans. Gaver et al. (1995) use a sample of 102 firms from 1980 to 1990 and show that managers are able to manage the results of their firm to maintain their bonus at a constant level. Balsam (1998) also find a positive relationship between discretionary accruals and earnings management. While Holthausen et al. (1995) find non-significant results among this relationship.

More recently, the accounting literature has focused on the impact of various forms of compensation including bonus plans. Cheng and Warfield (2005) show that when the bonus is indexed to outcomes, managers manipulate their earnings to receive the bonus. Moreover, El Mir and Seboui (2007) conduct a study on a sample of 612 French companies, their findings show a positive impact of variable compensation on opportunistic behaviour of managers, proxied by discretionary accruals .

The preceding discussion document that managers are likely to use upward discretionary accruals to maximize the value of their bonuses. Thus, we test the following hypothesis:

H<sub>1</sub>: Bonuses have a positive effect on earnings management.

### *2.2. Stock-options and earnings management*

Stock-options are one specific form of manager's pay. This compensation feature is related to a firm's financial performance, the reason why they attracted the attention of many researches in the economic literature. Investors on the financial markets use accounting information to infer the future prospects and the value of their firm. The rationale on the use of stock-option plan as a part of CEO compensation is the agency theory (1976). This pay for performance is used by shareholder's to align their interests with those of managers and reduce manager's opportunism. By so doing, their objective is to maximise the value of their firm. The relationship stock-option compensation and earnings management is supported by Watts and Zimmerman (1986) arguing that managerial opportunism is exacerbated by such form of compensation. Indeed, managers use this pay for performance to maximise their own utility function by selecting accounting methods that enhance firm performance leading to better stock price assessment.

Accordingly, the relationship between stock-option compensation and earnings management is based on the assumption that accounting practices are likely to influence stock prices. Cheng and Warfield (2005) argue that earnings management is likely to be associated with firm value only if: (i) investors rely on accounting information to assess the firm's value. (ii) Managers can take advantage of stock prices' increase through their stock-options. According to Jensen (2001), the only way available to managers to enhance firm value on the market is "to cook numbers" to mask the inherent uncertainty in the activity of their firm.

Empirically, previous studies have examined the relationship between stock-options and the likelihood of reporting erroneous reports and have found a positive relationship. Johnson et al. (2003) show that firms that are granting a large amount of stock-options to their managers are those which are committing fraud in their accounting numbers. Similarly, Burns and Kedia (2006) find that stock-options in comparison to other components of CEO compensation are related to earnings management practices. Bergstresser and Philippon (2006) find that firms with Stock-option executive plans are likely to use discretionary accruals to make high profits.

More recently, in the American context, Chen and Li (2011) find that CEO executive compensation indexed on firm performance is positively related to discretionary accruals. Based on a sample of Australian firms, Sun and Hovey (2012) also find that earnings management and stock-option based compensation are significantly

associated.

Managers are trying to maximize their wealth on behalf of their compensation indexed to equity prices. This encourages them to engage in earnings management to control the profits of their firms and keep stock prices high in the short term (Efendi et al. 2007). Accordingly, we formulate the following hypothesis:

H2: Stock-option Compensation has a positive impact on earnings management.

#### 2.2.1 *Stock-option attribution and earnings management*

Stock-options are generally granted at the money (the exercise price equals to the market price). The option exercise price is the price at which managers can buy shares in their company, so the value of the options can be increased by temporarily reducing the price of the underlying shares immediately before the date of the granting of options (Chauvin and Shenoy, 2001).

Previous studies have documented that managers use several strategies to increase the value of their stock-options around the date of grant. Yermack (1997) shows that managers influence in an opportunistic manner remuneration, by manipulating the timing of obtaining stock-options to occur just before (after) the disclosure of good (bad) news. Aboody and Kasznik (2000) show that managers accelerate the release of bad news ahead of predetermined options grant dates. Moreover, Chauvin and Shenoy (2001) examine the cumulative abnormal returns before the attribution of options. These authors suggest that managers benefit from lower stock price prior to the stock-option attribution, and an increase in stock prices after the date of grant.

These evidences led Balsam et al. (2003) to question whether managers affect the benefit of their firm to cause a decline in stock prices on the date of grant. These authors find a negative association between discretionary accruals and the attribution of new stock-options. Baker et al. (2003) also find that a high attribution of stock-options during a year is related to downward earnings management. This link can be amplified if the managers have the opportunity to publicly announce the results immediately preceding the date of grant.

In light of this discussion, we assume that managers manage earnings downwardly to decrease stock prices around the attribution date of options in order to book a higher income in the following fiscal year. Our hypothesis is then as follows:

H 2a : Periods of new stock-options attribution is related with downward earnings management.

#### 2.2.2 *Stock-option exercise and earnings management:*

Another stream of research examines the relationship between earnings management and the exercise of stock-options. Bartov and Mohanram (2004) find evidence in concordance with the timing hypothesis. The authors argue that managers use their private information to determine the date of their stock-option exercise. Bartov and Mohanram (2004) test whether managers inflate the result of their firm during stock-options exercise periods. They find that periods of " pre-exercise " are characterized by a large discretionary accruals level of increasing earnings to increase their gain from the exercise of stock-options and the sale of the shares acquired. They also find that poor earnings are released in the " post-exercise " period.

Johnson et al. (2003) and Cheng and Warfield (2005) examine the behaviour of earnings management before the exercise of stock-options. They show evidence of a positive association between the exercise of options and earnings management. Bergstresser and Philippon (2006) find that during periods characterized by an increased use of discretionary accruals, managers exert an unusual amount of options. In addition, Burns and Kedia (2008) find that firms adopting aggressive accounting practices have significantly more options. They show that the exercise of options is higher by 20-60% compared to similar firms (selected according to the criteria of industry and size) with no adjusted earnings.

Accordingly, we assume that managers use discretionary accruals to increase the stock price around the date of exercise of options.

H2b : The exercise of stock-options periods coincides with upward earnings management.

### 3. Sample selection and methodology

#### 3.1. *Sample and data*

Our sample includes French companies listed on the SBF 120 index over a period from 2006 to 2008. We remove from our initial sample financial institutions (banks, insurance and finance companies) due to the specificity of their financial statements. In addition, we exclude firms for which some data are not available or which are not listed during the studied period.

Table 1. Sample selection procedure

	Number
SBF 120 firms	120
- Financial companies	18
- Companies with unavailable data	25
= Final sample	77

Data related to executive compensation were hand-collected from annual reports downloaded from AMF (Autorité des Marchés Financiers) website. As for accounting and financial data, they were extracted from the Thomson One Banker database.

### 3.2. Variables measurement

#### 3.2.1 The dependent variable : Earnings management

Earnings management is measured by discretionary accruals since we test the effect of executive compensation on the direction of earnings management rather than the magnitude of the latter. We estimate discretionary accrual using the models of "Jones modified" (Dechow et al, 1995),

$$TA_{i,t}/A_{i,t-1} = \alpha_1 (1/A_{i,t-1}) + \alpha_2 (\Delta Sale_{i,t} - \Delta receivables_{i,t}/A_{i,t-1}) + \alpha_3 (PPE_{i,t}/A_{i,t-1}) + \varepsilon_{i,t}$$

Avec:

$TA_{i,t}$  : Total accruals of firm i in year t.

$A_{i,t-1}$  : Total assets of firm i in the beginning of year t.

$\Delta Sale_{i,t}$  : Sale variation

$\Delta receivables_{i,t}$  : Total receivables variation

$PPE_{i,t}$  : Gross tangible assets

$\varepsilon_{i,t}$  : The estimated discretionary accruals

#### 3.2.2 Independent variables

We test the effect of variable compensation (bonus) and stock-option compensation on earnings management practices.

-Bonus: This variable is measured by the value of the bonus granted to directors during the year.

-Stock-option compensation: We use three measures for stock-option compensation.

The number of options possessed by managers at the end of the year divided by the number of shares for the same year. This measure was used by Burns and Kedia (2006).

The attribution of new options: The value of newly granted options is measured by the following version of Black and Scholes (1973) :

$$C(P_t, P_0, t) = P_t e^{-\delta t} N(d_1) - P_0 e^{-r t} N(d_2).$$

With :  $P_t$  : Stock price.  $P_0$  : Exercise price.  $\delta$  : Expected dividend value.  $r$  : risk free rate.  $t$  : The remaining time to maturity.  $N$ : the cumulative probability function of a normal distribution.

$$d_1 = [\ln(P_t/P_0) + (r - \delta + 1/2\sigma^2) \times t] / [\sigma \sqrt{t}]$$

$$d_2 = d_1 - \sigma \sqrt{t}.$$

The exercise of options: The intrinsic value of options exercised are equal to the difference between the exercise price and the value of the underlying stock. Here we retain the share price recorded at December 31st of the year t.

#### 3.2.3 Control variables

Firm size: The political costs hypothesis formulated by Watts and Zimmerman (1986) states that large firms are subject to a tough monitoring by the market. However, several researchers show that large companies are involved with earnings management practices (Chung et al. (2002) and Yang et al. (2008)). We do not expect then the direction of the relationship between firm size and earnings management. We measure firm size by the natural logarithm of total assets.

Leverage: According to Watts and Zimmerman (1986), the more a firm with a high debt ratio, the more likely managers are involved with earnings management practices. In order to limit the risk of a transfer of wealth that can be caused to shareholders, creditors choose to incorporate covenants in debt contracts. These covenants are expressed in the form of accounting ratios and performance thresholds to meet. Thus, the objective of avoiding violations, managers are inclined to manipulate accounting figures to bring up a strong financial position (Sweeny, 1994; Jiang et al. 2008). We assume the existence of a positive association between the level of debt and the value of discretionary accruals. We measure the level of debt of the firm by the financial debt to total assets ratio.

Growth opportunities: According to the informational perspective of earnings management, companies enjoy great growth opportunities using performance management to communicate their private information on their investments. Gul et al. (2000) and Chen et al. (2010) show that there is a positive relationship between earnings management and growth opportunities to address the information related to future investment opportunities asymmetry. We expect then a positive relationship between earnings management and growth opportunities. We measure this variable by the "Market-to-book" ratio.

Firm performance: Previous studies have shown that discretionary accruals are influenced by past and current performance of the firm (Kang et al. 1995). Ahmed and Zhou (2000) show that high-performing companies manage their earnings to benefit from high firm valuation while firms with low performance are more involved in opportunistic earnings management to reduce the visibility of this poor performance. Accordingly, we do not

expect the direction of the relationship between earnings management and firm performance. As Kothari et al. (2005), we measure firm performance by the return on assets (ROA) calculated by dividing the net income over total assets.

Table 2. Definition and variable measurement

Variable		Measure
<b>Dependent variable:</b>		
Discretionary accruals	ACC_D	Gross value of discretionary accruals measured by the modified Jones model (1995).
<b>Independent variables:</b>		
Variable Compensation	BONUS	The value of bonus granted to directors during the year.
Stock-option compensation	OPTIONS	Options possessed by managers/ social capital in terms of the number of shares
Granted Options	GRANTS	measured by the Black and Scholes models(1973)
Option Exercise	Exercise	The intrinsic value of options exercised
Firm size	Size	The logarithm of total assets
Leverage	Lev	Financial debt /total assets
Growth opportunities	MTB	Market value of equities divided by book value of equities
Firm performance	ROA	The ratio of net income to total assets

### 3.3. Methodology

We use panel data regression to estimate the effect of CEO compensation on earnings management. Moreover, this model will be estimated by considering the gross value of discretionary accruals to capture the direction of earnings management (upward or downward). Thus, our regression model is as follows:

$$ACC\_D_{it} = \beta_0 + \beta_1 BONUS_{it} + \beta_2 OPTIONS_{it} + \beta_3 GRANTS_{it} + \beta_4 EXERCISE_{it} + \beta_5 SIZE_{it} + \beta_6 MTB_{it} + \beta_7 LEV_{it} + \beta_8 ROA_{it} + \varepsilon_{it}$$

## 4. Results and discussion

### 4.1. Descriptive analysis

Table 3 displays descriptive statistics and show that executives receive an average of 29.68 % of their total compensation in the form of bonuses. Besides, 46.38 % is the average of the Black & Scholes value of options granted during the year, which shows the large use of this type of compensation in French firms. Table 3 also shows that the managers realize on average, a proportion of 54.99 % of their total compensation through the exercise of their options. As the fraction of options held by directors is 3.37 % with a maximum value of 15%.

Table 3.Descriptive statistics

Variables	Mean	Std deviation	Min	Max
<b>Accruals</b>	0.0031	0.0473	-0.2334	0.1747
<b>Bonus</b>	0.2968	0.210	0.00	0.79
<b>Options</b>	0.0337	0.026	0.00	0.16
<b>Grants</b>	0.4638	2.250	0.00	0.73
<b>Exercise</b>	0.5499	0.64	0.00	2.20
<b>Size</b>	8.172	2.082	4.50	11.98
<b>Lev</b>	0.2663	0.1493	0.00	0.73
<b>MTB</b>	1.9262	1.3201	-1.92	7.03
<b>ROA</b>	5.8294	7.7211	- 47.20	49.25

To perform the comparison of mean tests, we created a binary variable for earnings management. This variable takes the value of 1 for companies that manage their results upwards (ACCD\_POS), and 0 for those who manage their results downward (ACCD\_NEG). We apply the test " Student t " and " Wilcoxon -Mann- Whitney " test. Table 4 shows that companies that manage their earnings upwardly, grant more bonuses (32% of total compensation ). This is confirmed with both tests at a threshold of 10%.

As for stock-options, we find that the percentage of options held by directors is significantly higher in the positive accrual group than the negative group of companies. The mean differences are significant at the 5% level with the Wilcoxon test. Moreover, Table 4 shows that the Black & Scholes value of newly granted options



is higher in companies involved in upwardly earnings management. In addition, the intrinsic value of options exercised by companies in the positive accruals group is greater than that of options exercised by the negative accruals one.

Table 4. Mean difference tests

Variables	ACCD	Mean	t-Student	z-Wilcoxon
<b>Bonus</b>	1	0.321	1.800*	1.980*
	0	0.270		
<b>Options</b>	1	0.035	1.300	-2.245**
	0	0.031		
<b>Grants</b>	1	0.451	1.267	-2.872**
	0	0.387		
<b>Exercise</b>	1	0.638	2.184**	-3.831**
	0	0.456		
<b>Size</b>	1	8.190	-0.206	-0.682
	0	8.130		
<b>Lev</b>	1	0.274	0.559	-0.785
	0	0.261		
<b>MTB</b>	1	2.396	9.179***	-9.631***
	0	0.832		
<b>ROA</b>	1	7.603	4.134***	-4.190***
	0	3.505		

The superscripts \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

#### 4.2. Bivariate analysis

We check for multicollinearity problem in table 5. According to Gujarati (2004), a serious problem of multicollinearity exists when correlations between the independent variables exceed 0.80 which is not the case in the present study. For further checks, we display the VIF values. They range between 1.03 and 1.27 by far below the critical value of 10 (Neter, Wasserman, and Kunter, 1989). The correlations between the independent variables do not seem then to be at the origin of the multicollinearity problem.

Table 5. Correlation matrix

	Bonus	Options	Grants	Exercise	Size	Lev	MTB
<b>Bonus</b>	1						
<b>Options</b>	0.042	1					
<b>Grants</b>	0.080	0.079	1				
<b>Exercise</b>	0.215***	0.126	0.150**	1			
<b>Size</b>	0.388***	-0.014	0.120	0.005	1		
<b>Lev</b>	0.044	0.051	0.097	0.060	0.150***	1	
<b>MTB</b>	-0.037	-0.007	0.043	0.099	-0.488***	-0.031	1
<b>ROA</b>	0.067	-0.026	-0.029	0.191***	0.067***	-0.070	0.378***
<b>VIF</b>	1,25	1,03	1,06	1,15	1,27	1,05	1,21

The superscripts \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

#### 4.3. Multivariate analysis

The regression results are presented in Table 6. This table shows that the variable BONUS affects positively and significantly at the 5% level earnings management ( $\beta_1 = 0.032$ ,  $z = 2.30$ ). This result confirms our first hypothesis that managers receiving bonus plans are using discretionary accruals to increase the variable portion of their compensation. This confirms results found by Balsam (1998), and Cheng and Warfield (2005).

The positive and significant relationship between the variable executive compensation and earnings management confirms the theoretical hypothesis of contractual political theory, related to compensation contracts. Bonus schemes are indexed on firm accounting performance. To receive this bonus, managers are more likely to manage earnings to increase their bonuses rather than increasing their efforts.

Moreover, the coefficient associated with the variable OPTIONS is positively and significantly associated with earnings management. This implies that the positive discretionary accruals, as a measure of upward earnings management, are more pronounced in companies whose managers have a broad portfolio of options. This result is in line with those found by previous studies. This result suggests that this compensation type encourages managers to engage in practices of accounting manipulation to meet analysts' expectations and maintain share high prices shares in a short-term. Considering another measure of accounting manipulations, Burns and Kedia (2006) who examine the relationship between restatement and stock-option plans, have also shown that restatements of results are observed in firms distributing high levels of stock-options.

In addition, we find that the association between the intrinsic value of options exercised, and discretionary accruals has the expected sign ( $\beta_3 = 0.015$ ,  $z = 3.20$ ). This finding suggests that earnings are managed upward to increase stock prices in periods of their stock-option exercise in order to increase the gain realized from the exercise of their stock-options. This positive association confirms our prediction and corroborates the results of Bartov and Mohanram (2004), Cheng and Warfield (2005) and Bergstresser and Philippon (2006). Indeed, this result seems to refute the idea that stock-options align the interests of managers and shareholders over the long term.

Table 6 also shows that the attribution of new stock-options do not show a significant association between earnings management and the value of newly granted options. One possible explanation for this result is that managers are more interested in increasing their immediate wealth than that related to future periods.

Among control variables, firm size is negatively and significantly associated with earnings management. Growth opportunities have a positive and significant impact on earnings management. This result confirms the informational hypothesis of earnings management which stipulates that companies taking advantage of the great investment opportunities use upward earnings management to inform the market about their future investments, supporting Gul et al. (2000) et Chen et al. (2010). Moreover, the coefficient on the firm performance measure (ROA) is significantly positive at the 1 % level suggesting that managers use upward earnings management to enhance firm market value.

Table 6. Regression results

Discretionary accruals		
	Coeff.	t
<b>Constant</b>	0,0286	(1,85)*
<b>Bonus</b>	0,032	(2,30)**
<b>Options</b>	0,422	(3,28)***
<b>Grants</b>	-0,0011	(-0,9)
<b>Exercise</b>	0,015	(3,2)***
<b>Size</b>	-0,003	(-2,1)**
<b>END</b>	-0,01	(-0,41)
<b>MTB</b>	0,008	(2,96)***
<b>ROA</b>	0,002	(4,76)***
<b>R<sup>2</sup></b>	0,449	

The superscripts \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

#### 4.4. Robustness check

We address robustness issues by performing a sensitivity analyses. We repeat our estimation using the model of Rees et al. (1996), and that of Kothari et al. (2005) as alternative measures of discretionary accruals. The results reported in table 7 show that signs and significance levels of our independent variables are slightly not affected.

Table 7. Robustness checks

	Discretionary Accruals			
	Rees et al. (1996)		Kothari et al. (2005)	
<b>Constant</b>	0.024	-2.00**	0.034	1.76*
<b>Bonus</b>	0.032	2.40***	0.035	2.60***
<b>Options</b>	0.388	2.98***	0.350	2.72***
<b>Grants</b>	-0.001	-0.87	-0.0002	-0.19
<b>Exercise</b>	0.015	3.13**	0.015	3.25***
<b>Size</b>	-0.003	-1.76*	-0.003	-2.03**
<b>Lev</b>	-0.046	-0.42	-0.010	-0.43
<b>MTB</b>	0.008	2.91***	0.005	2.74***
<b>ROA</b>	0.002	4.71***	-0.0001	-0.34
<b>R<sup>2</sup></b>	0,437		0,313	

The superscripts \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

## 5. Conclusion

The purpose of this paper was to examine the relationship between pay for performance and earnings management by focusing on bonuses and stock-options as the main proportions of CEO compensation.

Our empirical results first show that managers are inclined to increase the variable part of their compensation by engaging in earnings management practices. Furthermore, we find that stock-options would encourage manager opportunistic behaviour. Our results show that the amount of stock-options is positively associated to upward earnings management practices. In addition, we find a positive relationship between discretionary accruals and the exercise of stock options suggesting the desire of managers to increase the added value realized upon exercise of their options.

This research contributes to the literature on managerial compensation and earnings management. Several studies have supported the role of performance-based pay in aligning the interests of management and shareholders. Our study shows that this compensation type could act contrary to shareholders' will. Indeed, we show that variable compensation and stock-option plans exacerbate manager opportunistic behaviour and agency costs rather than acting as a corporate governance device and reducing conflicts of interests.

However, our research is subject to some limits. A major limitation lies in the method of selection of the sample that is not done in a random manner. In fact, our analysis focuses on accounting and financial data of companies belonging to the SBF 120 index which makes it difficult to generalize our results to all French companies. Also, our choice of stock-options assessment by the method of Black and Scholes can be a source of bias.

The future availability of quarterly data on stock-options can enrich our analysis by examining the relationship between accounting manipulations and political grant / exercise of stock options in the period before / after the date of the transaction. Future research may examine the moderating role of corporate governance quality on the relationship between executive compensation and earnings management.

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